

**ABSTRACT OF THE DISCLOSURE**

A process for desulfurizing middle distillates by charging a sulfur-containing middle distillate and a hydrogen-containing diluent to a reaction zone in respective amounts and under reaction conditions sufficient to vaporize substantially all of the sulfur-containing middle distillate present in the  
5 reaction zone. In the reaction zone, the vaporized middle distillate is contacted with a sorbent comprising a promoter metal and zinc oxide to thereby provide a desulfurized middle distillate comprising less sulfur than the sulfur-containing middle distillate initially charged to the reaction zone.

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